

Health-Environment Alliance

The link between weather, climate and human health is one of the emerging frontiers of science and society. In order to better serve society's needs, we have created an innovative Alliance of experts in climate and weather science, information science, ecosystem science, public health, and education. The Alliance's objective is to predict the spread of infectious diseases in particular environmental settings in order to avoid harmful human health results. Initially, the Alliance is focusing on West Nile Virus and Lyme Disease which are major human health concerns to large parts of the United States. For both, the linkages between climate, disease transmission, and illness illustrate the opportunities of predicting the climate-driven risks and developing proactive preventive measures for the public. The strategy is to identify, inform, and manage the risk of weather and climate-related health threats by forecasting outbreaks using powerful models and information management technologies.

The Alliance is a commitment to:

- (1) Integrating observations into a coherent environment and biological information framework at a regional scale,
- (2) Creating a modeling capability for predicting disease onset and evolution,
- (3) Developing an integrated, comprehensive, and easy to use regional information system,
- (4) Completing process studies of key problems and issues, and
- (5) Creating and maintaining a vigorous and continuous link to users and decision-makers.

This capability serves as a foundation for a comprehensive capability to address a large variety of health issues, including impacts of severe weather, health risks associated with air and water pollution, the contamination pathways of water and food-borne illnesses, bioterrorism, and the transmission of other infectious diseases.

The members of the Alliance include:

- The Pennsylvania State University
 - College of Earth and Mineral Sciences
 - College of Agriculture
 - College of Science
 - College of Medicine
 - School of Information Sciences and Technology
 - Applied Research Laboratory
- The Johns Hopkins University
 - School of Hygiene and Public Health
- Pennsylvania State Government
 - Pennsylvania Department of Environmental Protection
 - Pennsylvania House of Representatives, Office for Research Liaison
 - Pennsylvania Topographic and Geologic Survey
- The Federal Government
 - NASA
 - Center for Disease Control and Prevention
- Private Industry/Consortia
 - Open GIS Consortium
 - Environmental Systems Research Institute